

Patent Abstracts of Japan

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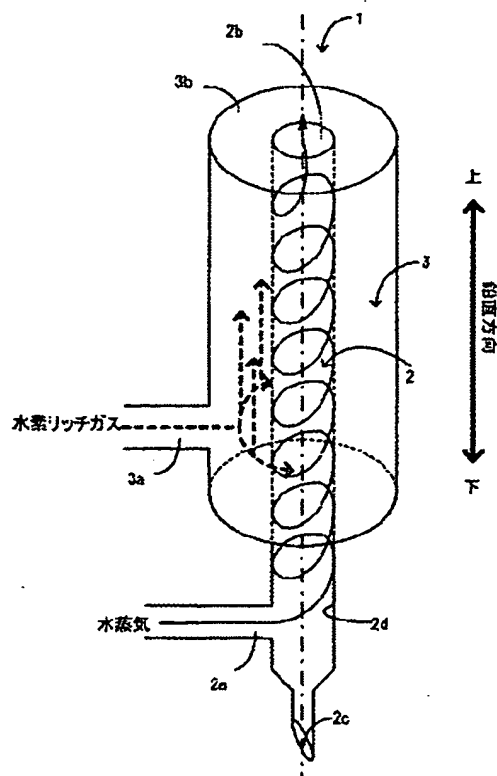
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APPLICANT : NISSAN MOTOR CO LTD;

INVENTOR : ABE MITSUTAKA;

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TITLE : CATALYTIC REACTOR FOR FUEL
CELL SYSTEM



ABSTRACT : PROBLEM TO BE SOLVED: To provide a catalytic reactor for fuel reforming system capable of preventing an excessive rise in catalyst temperature.

SOLUTION: This catalytic reactor is equipped with a catalyst layer 3 in which an exothermic reaction reducing the CO content in a hydrogen-rich gas occurs, and a vapor/liquid separating layer 2 in which the liquid and the vapor in steam are separated, and the catalyst layer 3 and vapor/liquid separating layer 2 are structured to enable heat exchange in between. Here, the vapor/liquid separating layer 2 is structured inside a cylindrical CO reduction unit 1 and the catalyst layer 3 is structured outside it. In the vapor/liquid separating layer 3 the steam flows swirling upward, and in the catalyst layer 3 the hydrogen-rich gas flows upward thus heat exchange is carried out between the steam containing much liquid and the hydrogen-rich gas having a high calorific value.

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